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ON THE TREATMENT OF THE SICK IN TENTS AND TEMPORARY HOSPITALS.

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THERE are very many instances upon record that furnish ample illustration of the truth of the assertion that temporary hospitals are the best ones. A few of them may be cited. It is related that, in 1755, some men-of-war carried out from England to North America a malignant jail-fever. The fever continued to spread while at sea, but at Halifax the sick "were lodged in tents, or in very old shattered houses that admitted the air very freely, which put a sudden and effectual stop to this disorder."

In 1758, says Sir Richard Brocklesby, a greater number of sick were landed out of transports on the Isle of Wight than could be contained in all the spare out-houses, barns and empty cottages that could be procured. A very rudely-built temporary shed of deal boards was constructed to hold 120 patients, and, though apparently inadequate to the end proposed, it was found that, notwithstanding much extraordinary cold and moisture, remarkably fewer died of the same disease than died anywhere else; and all the convalescents recovered much sooner than they did in the warmer and closer huts and barns, where fires and apparently better accommodations of every kind could be procured for them.

The instance is often quoted of the use of the abattoirs at Paris, during the invasion of France in 1814 and 1815, when the sick and wounded were put in these simply constructed buildings, which had neither doors nor windows, so that the wind blew directly through; yet the mortality in them was only one half of what it was in the hospitals.

The same facts were observed by the Prussians in 1812 and 1813, and Sir James McGregor fully recognized the immense importance of the distribution of the sick and wounded of the British Army in the Peninsular War. Sir John Pringle had a great and wholesome fear of general hospitals for the English service, and strenuously advocated the dispersion of the sick in small establishments.

Very many such instances may be found among the recorded observations of medical men of the past century, indicating that the educated opinion and experience of the profession has always been against the agglomeration of the sick in large numbers. In our own times, and within the personal knowledge of every one here present, there

have undoubtedly been notable illustrations of the truth of this matter.

Since 1854, the sick of the Austrian army have been largely treated, during eight or nine months every year, in well-ventilated tents, in preference to field hospitals. The results were very satisfactory, and Dr. Krause reports that "the most severe maladies ran their course much more mildly in the free air, i. e. in tents, and recovered more perfectly and more quickly than in the confined space of hospitals." When, in following years, tents were kept open farther into the winter, it was noticed that when, by a sudden onset of cold weather, the temperature fell to the freezing point at night, the sick were in no degree damaged, and the men themselves, though severely ill, declined the offer to move from the tents into the hospital. In the experience of six years (1854 to 1860), typhoid fever, in its severe forms, was treated more successfully in tents than in the hospitals, the rate of mortality being 20·9 per cent. in the former and 30·5 per cent. in the latter. The most favorable results were observed also in cases of smallpox, pyæmia, hospital gangrene and wounds. When, in 1859, a number of wounded (789) were sent from Italy, there was no death among any of those treated in tents, where all the severe cases were sent. No case of pyæmia occurred in tents, and in no single case could it be made out that hospital gangrene originated there, though there were such cases in the wards of the hospital building. The story is well known of the terrible losses, in the Crimean war, of those treated in the large hospital at Scutari, with at one time 2,500 sick and wounded under its roof, of whom two in every five died, while there was afterwards not one half the mortality among those in the hospital tents, though badly fed and clothed and without proper medicines. The yearly death rate of 60 per cent. of the strength of the army, from disease alone, in the first seven months of the campaign, was reduced to a yearly average of $1\frac{1}{10}$ per cent. during the last five months. Wooden barrack hospitals were for the first time made use of on a large scale during that war.

At the beginning of the civil war in the United States of America, as had been the custom in emergencies in all previous wars of modern history, public buildings, schoolhouses, churches, hotels, factories, &c., were used as hospitals; but gradually one-story wooden pavilions, erected for the purpose, came into general use. It was prescribed, by orders of the War Department, that the pavilions should be 187 feet long, 24 feet wide and 14 feet high from floor to eaves. Two small rooms were partitioned off, at one end for bath-room and water-closet, and at the other end for medicine closet and nurses' room. The space remaining, 165 feet in length, was occupied by beds for thirty patients, and there were sixteen windows on each side of the pavilion. Ventilation was partially obtained by doors and windows, but principally, in summer, through an open ridge. In winter, the wards were each heated by four stoves, the pipe of which, passing upward through wooden shafts, formed ventilating flues for the extraction of foul air. Fresh air was introduced through air-boxes opening under the stoves. The floors, roof and walls were of a single thickness of boards, with the joints in the walls battened outside, and the roof made water-proof with some cheap material. The floors of the buildings were required to be at least eighteen inches above the ground, with an open and free passage for the air beneath.

The military hospital system was developed and perfected as has never before been done, and, at one time, in 1864, there were 202 general hospitals, with 136,894 patients in them. The average yearly mortality rate among the sick, of the whole period of the war, was less than 6 per cent. of the whole strength of the armies, a result obviously due to an excellent and efficient hospital organization.

Compare with this the annual mortality from disease of the British Army in the Crimea, which was 23.2 per cent. of its whole strength, and with that of the French Army, which was 30 per cent.

It is well known that great numbers of our sick and wounded were treated in tents in the field hospitals during the War of the Rebellion, and it was not the least important among the achievements of the Medical Department that it was proved beyond question that tents afford all necessary protection against unfavorable atmospheric influences, at least during all but the winter months, and that wooden barracks furnish entirely adequate protection and shelter all the year round in temperate climates. Dr. Hammond, in his treatise on Hygiene, says, in writing of the earlier years of the war, that "nothing is better for the sick and wounded, winter and summer, than a tent or ridge-ventilated hut. But in one instance that has come to my knowledge has hospital gangrene originated in a wooden pavilion hospital, and in no instance, so far as I am aware, in a tent."

The history of the Franco-German War, in relation to this subject, is exceedingly interesting, and an examination of the hospital system, in each of the two countries, give additional proof of the superiority of special temporary structures. Tent hospitals were not so much used as in the war in America, their proper management being, apparently, not understood. The American Ambulance, in Paris, attracted great attention, by its remarkable success and its demonstration that the objections believed to exist against tent-hospitals for winter service were not well founded. One of the earliest barrack hospitals to be erected as a result of American military experience was designed by Dr. Esse, and annexed to the Charity Hospital at Berlin, in 1867. It was only 84 feet in length, and contained 20 beds, but otherwise resembled the American pavilion, with the addition of a gallery, 4½ feet wide, on each side, and a verandah at each end, and being constructed somewhat more substantially, with double walls and floor, as it was designed for use in winter, as well as summer. It was warmed by two stoves, and, by a peculiar and effectual method of ventilation, the foul air was drawn through the open space in the hollow walls and floor, and passed upward through pipes near the stove, escaping through the roof. The Germans afterwards built many barrack hospitals, differing chiefly from the American system, in use during the civil war, in being smaller, containing fewer beds, and being more hastily constructed. Many of them were so constructed that, in pleasant weather, the walls could be removed, and they could be thrown open on every side, with the galleries and verandahs screened and protected by canvas curtains.

The English model-hospital barrack is constructed with double walls, and is raised above the ground, for the free circulation of the air beneath. Great pains are taken to prevent the deposition and accumulation of organic matter in the cracks and joints of the woodwork. The inner walls are made of hard material, which can be washed, and the

floors are of hard wood, kept clean by waxing, with the joints filled with cement. Latterly paraffin has been used by being melted and poured upon the floors, and ironed in with a hot box-iron. It is also applied to the walls and furniture as a paint, dissolved in turpentine or paraffin oil. The recent experience of the English in the treatment of epidemic diseases in such hospitals is not less remarkable than the instances before quoted.

The plans for permanent military hospitals at army posts, adopted by the U. S. Government, carry out the essential principles of the barrack hospitals of the war. They provide for an administration building and attached pavilion, to hold from 12 to 24 beds each. They are to be built with double walls and quite substantial, but still are comparatively inexpensive. They are generally wooden structures, but sometimes they are built of brick upon the same plan. One of these brick hospitals may be seen at Fort Independence, Boston Harbor; it has a capacity of 24 beds and cost $13,500.

Dr. Billings, in his Report on Barracks and Hospitals, in 1870, writes of the U. S. Army Hospitals then existing, "they are satisfactory in one respect, that they are almost all temporary hospitals. This I consider a decided advantage, as I believe that no hospital should be constructed with a view to its being used as such for more than fifteen years. If the money required to put up such structures as the New York Civil Hospitals, the Rhode Island Hospital or the Cincinnati Hospital, were divided in two equal parts, one-half being used to erect frame hospitals of the same capacity as the stone and brick hospitals actually built, and the other half being put out at interest at 6 per cent., a complete new hospital could be furnished every twelve years, for an indefinite period to come."

Many objections are generally believed to exist against the use of tent and barrack hospitals—that they furnish inadequate shelter, are wet and cold, and cannot be properly warmed in bad weather, that the ground around and beneath them will become infected, &c. These objections must be considered as proved to be quite unfounded, by the very extensive and successful use that has been made of such hospitals. Proper management will overcome all these difficulties. The tent wards which you have seen at the Boston City Hospital have rendered most satisfactory service in the past two years. They were in use during only about four or five months in each year, between May and October. They are constructed of U. S. Army hospital tents, which are 14 feet in length, 15 feet in width, 11 feet in height at the centre, with a wall 4 feet 6 inches, and a fly of appropriate size. The tents now in use have the two latter dimensions increased, being 12 feet high at the centre, and having walls 5 feet high. They are made of 10-oz. cotton duck, and, with poles, cords and pegs complete, can be bought for less than $100 each. Tents of this size will hold very comfortably six beds each. At the City Hospital, the tent-wards have been constructed in the following manner: A floor of planed and matched boards, 37 feet long and 15 feet wide, is laid so as to be about 18 inches above the ground, and supported upon blocks at many points to give it firmness. A light and strong frame, just fitting the inside of a tent, is put up at each end of this floor, leaving a space of 9 feet in length in the centre between the tents. Two tents are then put upon the frames, and a narrow board placed between them to com-

plete the ridge of the structure. A little fly is then spread over each tent and fastened on each side by its cords to a rail on a level with the eaves of the tent, and about two feet distant from it. Below these rails and near the ground are others to which the cords from the eaves of the tents are attached. A third fly is then spread and fastened to the rails on each side to form an awning over the open space between the tents. In this space are placed a table, chairs, refrigerator, &c. The walls of the tents can be raised on all sides and looped up in pleasant weather, so as to form an awning of the whole, or they can be closely fastened down to keep out the rain and wind. During the last two seasons, 50 patients have been treated in these tent-wards with the most gratifying results.

The U. S. Army hospital tent has at one end a lapel, so that two or more tents being joined and thrown into one a tent pavilion is formed, with a continuous covering or roof. In the field hospitals, during the war, it was customary to unite four or six tents together in each pavilion, and it was found to be an arrangement that was convenient and advantageous in many ways.

Many different forms of hospital tents have been devised in other countries, but none seem to have rendered any more satisfactory service than those just described.

The heating of tents properly has been regarded as a matter of some difficulty. This has been accomplished quite satisfactorily, however, by the use of fireplaces, sheet-iron stoves, and by a plan called the "California stove." In this plan a small excavation is made in the ground, either within or just outside of the tents, and the fire being built in this excavation, the smoke and heat is carried along a covered trench, which passes under the floor of the tents into an upright flue, outside and beyond the tent wall. The tents are thus warmed through the ground or floor. This method was perfected and very successfully employed in the American Ambulance in Paris, in the winter of 1870 and '71.

An important consideration that must never be forgotten is that perfect cleanliness must be maintained around and about such temporary hospitals. The ground about them should be thoroughly drained, and the surface replaced from time to time. Frequent and systematic policing must be enforced, and the location of tents must be changed, if long in use. The importance of this matter is generally overlooked, and the inattention to these very requirements at many of our popular summer resorts in the country, as at the seaside, has caused so much serious and fatal disease as to attract the general attention of physicians.

In the light of such experiences as have been set forth, it must readily be seen how easy and simple a thing it is to provide good hospital accommodations, in any emergency, no matter how sudden and unexpected, that the prevalence of epidemic and infectious diseases may occasion. In England such emergencies are now anticipated and preparation is made for them. Dr. Parkes says that "within the last few years it has become customary for all towns of any size to put up some temporary hospitals during an outbreak of cholera, smallpox, relapsing fever and typhus, and to remove persons ill with these diseases at once from their dwellings." Under the provisions of the Sanitary Act of 1866, the Medical Department of the Privy Council

points out in relation to providing "hospitals or temporary places for the reception of the sick," "that villages should have the means of accommodating instantly four cases of infectious disease, in at least two separate rooms, and it is considered that a good cottage would answer the purpose." "For temporary emergencies, tents are recommended or huts are advised." If tents cannot be procured or practically used, a hastily built barrack hospital of boards may, in a few days, be prepared. And not only this, but it will be one that will sufficiently shelter the sick, and will not be surpassed in its healing influences by the finest structure in the land. Every large town may have a well-built, wooden, pavilion hospital, which will fulfil all the requirements of a hospital, and still be cheaply built and supported. The principles upon which a hospital should be constructed cannot be better set forth than in the rules given by Dr. Parkes.

1. The sick should be distributed over as large an area as possible, and each sick man should be as far removed as possible from his neighbor.

2. The sick should be placed in small detached and perfectly ventilated buildings, so that there is no great number of persons in one building, and there shall be no possibility of the polluted air of one ward passing into another.

When we are called upon to devise a plan for a hospital, the prime object that should always be held in view is that it is for the healing of the sick. As far as its construction is concerned, we are to provide for the sick the *best permanent shelter*, and one that may be convenient for administration. Nothing more is needed, and when we begin to attach importance to other considerations, we begin to lose sight of and obstruct the attainment of our prime object. An infinite number of invincible proofs can be cited as positive evidence that temporary hospitals are the best. The reason why they are the best is simply because in them, better than in any others, we get pure air. Dr. Frank Hamilton says, "other things being equal, the best place to treat a sick or wounded man is, always, where he can get the most and the purest air." Florence Nightingale has comprehensively stated the whole matter in the first words of her "Notes on Hospitals," in which she says, "it may seem a strange principle to enunciate as the very first requirement of a hospital, that it shall do the sick no harm." These propositions may be taken as the axioms of hospital construction, and would undoubtedly be accepted as such by all who would build hospitals, from those who would treat the sick only in temporary and destructible huts and barracks, to those who would construct architectural monuments of their philanthropy. But when we come to inquire *how* we shall best provide the proper conditions for the treatment of the sick, give them abundance of pure air, and surround them with all the influences that can contribute to their recovery, then the difficulties begin, and the architects and the physicians are apt to disagree.

The lamentable errors of the past, in the histories of great hospitals, with their crowded wards and terrible mortality, furnish instructive lessons, and warn us to seek to avoid the evils of the old hospital system, of which the old Hôtel Dieu of Paris and St. Thomas of London, in the last century, are examples. We have the same evils in the hospitals of our own day, and do not need to go beyond the large cities of

our own country for such examples. Even at so late a period as that of the Crimean war, the old system prevailed, and the disastrous events of that war may be said to be the starting point from which followed the great changes wrought by modern hospital reform. The extraordinary results that have been obtained in the treatment of the sick and wounded, in temporary hospitals, have given forcible demonstration of the superiority of tents and barracks over hospitals of complicated construction. The rapid advances that have been made in modern times in all departments of scientific knowledge, the better understanding of the true nature of disease and the influences that propagate and control it, have contributed largely to the progress of hospital reform.

A startling array of facts has been brought to light in regard to the bad management and high rate of mortality of the great hospitals of the past and of those still existing. Such facts point to an unmistakable and inevitable conclusion. It is declared by Dr. Simpson, Dr. Kennedy and others who have most thoroughly investigated this subject, that a great portion of the high rates of mortality is preventible, and due to defects in the construction of hospital buildings, and that, as the well are made sick by "crowd-poisoning," so the sick, placed under the same influences, are surely hurried on to their death. The names "hospitalism" and "hospital influence" are given to these evil conditions, and it is declared that there are hospital diseases which have their origin *in the hospital*, that they generate therein an epidemic poison which, by its "*cumulation* and saturation," pervades the building, and surely kills many of the sick who come within its walls, who could get well elsewhere.

It is not intended, in this paper, to discuss in detail the progress of modern hospital reform. The whole subject is clearly and ably reviewed by Dr. Derby in the "Report of the State Board of Health of Massachusetts," for 1874, recently published. The summing up of the whole matter in relation to the evils of "hospitalism" and "hospital influence" is, that the old system of hospital construction is bad and utterly to be condemned.

Many new hospitals have been built in the last twenty years, in which principles enunciated by the advocates of hospital reform have been partially carried out. In all permanent hospitals, however, the plan has almost invariably been to build pavilions three or four stories in height, and not the pavilions of one story each. As an example of these, and one of the first to be erected in this country, is the Boston City Hospital, which was first occupied ten years ago. It was then considered to be quite perfect in its general plan—that of detached buldings, &c.—and was copied in other cities. Not less than five or six civil hospitals, upon essentially the same plan, have been constructed in New York city alone during the last few years. Other examples are the celebrated Lariboisière Hospital of Paris, the new St. Thomas of London, and many more; but though a great advance upon the old hospitals, these and many others have now been long enough in use to have shown that many of the grave evils still exist in them which it was sought to avoid.

The great desideratum of the sick, pure air, is not obtained in them. All systems of supplying it in needed quantities, in hospital buildings of more than one story, have failed. The elaboration, complication

and expensiveness of all the artificial systems of ventilating hospitals condemn them, making them difficult to manage, or practically unmanageable, and altogether unsatisfactory. One of the most elaborate systems of ventilation that has been developed by modern science and skill is that of the famous Lariboisière Hospital. In relation to this hospital, Dr. Evans, in his recent "History of the American Ambulance," quotes the words of a celebrated French surgeon as follows:—"Of all the Parisian hospitals, the best arranged, the one which has been constructed with the greatest care, according to all the rules of science, is the hospital Lariboisière, and the mortality there is frightful. In other words, it is a *great* hospital. It is vain to ventilate; the miasms penetrate the floors, incrust the walls, dance in the air which is breathed, and transform in a twinkle an illness of little consequence into a mortal malady." *From one, know all.* If our best modern hospitals do not stand the test of experience, do not give us the results we can surely get in other ways, what are we to infer, and what is the mistake in them? The money invested in them makes large and satisfying returns, in the admiration their noble proportions excite. The good done in them is great and not to be despised. But something more is demanded—simply that "*they shall do the sick no harm,*" that the rate of mortality in them shall be no higher than in tents, barracks and sheds, the use of which emergencies have sometimes compelled. We know now that in these last-named structures, and by the segregation of the sick and wounded, we can get a lower rate of mortality than we would dare expect in any of our modern permanent three or four story hospitals. The truth, then, is, that the nearer we approach to simplicity of construction, the better are the results and the more sick get well; and the mistake is, that most modern hospitals have been only an architectural compromise between the old system and the new one of the future.

We may soon find that the hospitals of to-day are to be regarded as only an approximation towards sound and enlightened principles, and that any small town or village can have, within forty-eight hours, by erecting one of these tents or board barracks, as good, or rather, as we have shown, a better receptable for the sick than hitherto has been attained in the largest and richest cities. It is safe to predict that the hospital of the future will give no inferior results to those we know have been obtained in temporary structures; and till as good results have been obtained in other ways, it is fair to regard the temporary as the best hospital.

It will be wise for us, then, to leave to their fitting use such buildings, with their architectural adornments, as our churches, court houses and government halls, and build for our sick what they need and what is best for them, what is within our means, and what we go without in our towns and villages, to the propagation of epidemic and infectious disease. It will be wise for us to seek rather to heal our sick than to build enduring and costly structures that may be the pride of their projectors and the monuments of their philanthropic zeal, but of which it has been predicted (by Dr. Derby) that "they will, in the future, be regarded as the monuments of those who needlessly died within their walls."

Progress in Medicine.

REPORT ON MEDICAL CHEMISTRY.

By Edward S. Wood, M.D.

Analysis of Human Bile.—By Oscar Jacobsen. *(Berliner d. deut. Chem. Gesellschaft*, 73, No. 14.)

The bile analyzed was obtained from a biliary fistula in a healthy man. It was clear, of a greenish yellow color, neutral reaction to test paper, and had a specific gravity of from 1·0105 to 1.0107 at 17·5° C. On evaporation, it left 2·24 to 2·28 per cent. of solid residue. During the first few days, it contained traces of albumen and leucin. No grape sugar nor urea were detected. Bilirubin and biliverdin were always present.

The solid residue left, after ignition, 37·62 per cent. of ash, the analysis of which gave the following result:—

	Per cent. of ash.	Per cent. of dried bile.
Chloride of potassium	3·39	1·276
" " sodium	65·16	24·508
Carbonate of "	11·11	4·180
Phosphate " "	15·90	5·984
" " calcium	4·44	1·672
	100·00	37·620

Besides the above constituents, were found traces of silica, iron, magnesia, and, in every analysis, copper. The last was found in that portion of the bile which was insoluble in alcohol. Further analysis gave the following results:—3·14 per cent. of the dried bile dissolved in ether, and consisted of—

Cholesterin	2·49	
Unsaponified fat, with a little oleate of sodium	0·44	
Leithin	0·21	
Portion soluble in ether		3.14
Portion insoluble in alcohol and ether		10·00
Alcoholic extract—glycocholate of sodium		44·8
Palmitate and stearate of sodium		6·4
Per cent. of dried bile		64·34

In this bile, no trace of taurocholic acid could be detected. In a series of analyses of bile, taken from the gall-bladder after death, sulphur constituted from 0·21 to 0·925 per cent. of dried bile in nine specimens, and 2·67 per cent. in a tenth specimen. In three of these, the sulphur was entirely in the form of sulphuric acid. In another series of analyses, the author found an average of 14·2 per cent. of taurocholate of sodium. Hence, in human bile, taurocholic acid may be wanting completely, but glycocholic acid is always gresent in greater or less quantity.

Estimation of Albumen.—By Girgenshon. *(Jour. de Chim. Méd.*, January, 1874, from *Neues Rep. f. Pharm.*, 1873, p. 553.)

This is done by precipitation of the albumen with tannin in the following way. Add to the liquid to be tested one half of its volume of a 20 per cent. solution of common salt, and then a solution of tannin in excess. Collect the precipitate on a weighed filter, wash first with

water, in order to remove all of the salt, and then with boiling alcohol until the filtered alcohol contains no more tannin, dry the precipitate and weigh. The weight of the filter and precipitate, minus the weight of the filter paper, equals the weight of the albumen in the amount of fluid taken.

The author concludes as follows :—" The albumen contained in the urine of nephritis differs from that found in urine in cases of accidental albuminuria. The tannin compound of the former contains 37 per cent. of tannin, while that of the latter contains about 20 per cent." The albumen of the blood serum re-acts with tannin in the same way as that of nephritic urine.

Action of Chloral Hydrate on Albuminoid Matters.—By M. Personne. (*Jour. de Chim. Méd.*, March, 1874.)

The results of the author's experiments are as follows:—

Fresh blood treated with a solution of chloral hydrate, and kept at the ordinary temperature, coagulates completely; it preserves its red color, and is not altered by a temperature of 25° to 28° C. So coagulated, it yields nothing to water.

Defibrinated blood is also coagulated by chloral hydrate, but the coagulum thus obtained, if treated with water, gives up a substance which has a brownish-red color.

If a piece of muscle be introduced into a 10 per cent. solution of chloral hydrate, it becomes a little paler, a reddish liquid exudes, which soon deposits a brick-red sediment. If withdrawn after a few hours' immersion, and kept at 15° to 20° C., it dries quickly, becomes brighter in color, and can be pulverized readily. It does not putrefy. The powder consists of a compound of albumen with chloral, soluble in an excess of either albumen or chloral.

By means of a 10 per cent. solution of chloral hydrate, M. Personne was enabled to preserve animals for several months without decomposition, and, if the solution contains one half its volume of glycerine, the tissues do not become dry, but retain their original flexibility. By this action, Personne explains the longer duration of the effects of chloral over those of chloroform, he being an advocate of Liebreich's theory of the physiological action of chloral, viz., that it acts by being decomposed by the alkalies in the blood into chloroform and formic acid. He states that the first action of the chloral hydrate upon the albuminoid matters which it meets with in the system, produces chloroform by means of the alkali of these albuminoid matters. At the same time, these deprived of alkali combine with the undecomposed chloral, this compound forming a sort of reservoir of chloroform, only yielding it gradually as the circulation destroys the compound formed. This also explains why only a very small quantity of chloroform can be found in the blood of animals killed with chloral hydrate.

Test Paper for Urea.—By M. Musculus. (*Comptes Rendus*, 78, p. 132.)

This paper is prepared by filtering urine, which has undergone alkaline fermentation, through filter paper, washing and drying the paper at 35° to 40° C. The globules of the penecillium glaucum, which cause the decomposition of the urea into carbonate of ammonium, remain attached to the filter, and their activity can be restored by placing the paper in water. After filtering, washing and drying as above mentioned, the paper is colored with turmeric, dried again, and kept for

use in a dry bottle. So prepared, it forms a most delicate test for urea. If a piece be dipped in a solution of urea, which contains only one part in ten thousand, it will soon become of a dark-brown color, owing to the action of the carbonate of ammonium formed upon the turmeric, while a piece of ordinary turmeric paper will remain unchanged.

In testing a liquid for urea, it must first be neutralized, and the test paper inserted. Carbolic acid, even to super-saturation, does not prevent the ferment from acting. Albuminoid matters are not acted upon by this ferment; i. e., they produce no alkaline reaction in the time required to form urea into carbonate of ammonium. Uric acid is also unchanged by it.

A quantitative estimation of urea can be made by placing the fluid in a flask, adding a little tincture of litmus and then the test paper. Dilute sulphuric acid is then added until the litmus is reddened, and the whole left for five or six hours at a temperature of 25° to 30° C. The ammonia formed can then be estimated by a standard acid solution.

The detection and estimation of very small quantities of urea in well-waters suspected of contamination by infiltration from water-closets, &c., may be easily and quickly made with this paper.

Indican in the Urine in Addison's Disease—(*Jour. de Chim. Méd.*, April, 1874.)

The urine of two patients, aged respectively 60 and 72 years, suffering with Addison's disease, was analyzed for many days by Rosenstein. The amount of urea was diminished, it never exceeding twenty grammes in the twenty-four hours, and sometimes falling as low as thirteen grammes. The most notable feature, however, was the increase of indican (uroxanthin). The amount of indigo found (by Jaffé's method) varied from 0·0645 grammes to 0·0753 grammes in 1000 cubic centimetres of urine, i. e., ten or twelve times the normal amount.

The Influence of Sulphates in the production of Goitre.—By M. Bergeret. (*Jour. de Pharm. et de Chim.*, January, 1874.)

M. Bergeret attributes the production of goitre to the presence of sulphates in the system. These may get into the blood either by drinking water which contains a large amount of gypsum (sulphate of calcium), or by the increased metamorphosis of muscular tissue. In one case cited to prove this, nearly all the inhabitants of a town, which was supplied with drinking-water largely impregnated with gypsum, were affected with goitre until the water supply was changed, when the disease ceased to be produced

Analysis of the urine of a very large number of persons affected with goitre, showed that the amount of sulphuric acid in the urine was increased from two to four times the normal amount.

To detect Quinia in the Urine.—Dr. Vitali (*Jour. de Chim. Méd.*, May, 1874) gives the following process, which requires but a small amount of urine.

Add to eight or ten cubic centimetres of the urine to be examined five or six cubic centimetres of ether, and to this mixture eight or ten drops of ammonia water or sodic hydrate, and shake. After the separation of the ether, decant it into a capsule with one drop of dilute hydrochloric acid, and evaporate it by a very gentle heat. After cool-

ing, add a few drops of chlorine water, mix with a glass rod, and then add a drop of ammonia water. If the urine contains 0·05 grammes of quinia to the litre, the characteristic green color will be produced.

Potable Water.—The following, according to Dr. F. Fischer (*Jour. für Pract. Chemie*, ii. viii. 123–126), are the characteristics of good drinking-water:—

1. It should be clear, and without taste or smell.
2. The temperature should vary at different periods of the year only within narrow limits (6° to 12° C.).
3. It should contain very little organic matter and no organisms, such as bacteria, eggs of entozoa, &c.
4. It should be free from ammonia and nitrous acid, and contain no large quantity of sulphates, nitrates and chlorides.
5. It should not be too hard, and should not contain a large amount of the salts of magnesium.

One litre of water of the above kind would contain, at most, of—

Organic matter, 40 milligrammes.
Chlorine, one equivalent in milligrammes (= 35·5 milligrammes).
Nitric acid, 0·6 equivalents in milligrammes.
Sulphuric acid, two equivalents in milligrammes.
Magnesium, two equivalents in milligrammes.
Calcium, four equivalents in milligrammes.
Degree of hardness = 16·8 (German scale).

(To be concluded.)

Law of Missouri concerning the Practice of Medicine.—We furnish below a synopsis of the law passed at the last session of the Legislature of Missouri in relation to the practice of medicine and surgery in this State, approved March 27, 1874.

1. It is made unlawful for any person to practise medicine or surgery in this State, who shall not have first received the degree of doctor of medicine from some medical college or university duly established under and by virtue of the laws of the State or County in which the same is situated.
2. Every person wishing to commence the practice of medicine or surgery in this State is required to file a copy of his diploma in the office of the County Clerk of the County in which he resides, to be sworn to and subscribed by the party filing the same, and thereupon the County Clerk registers the diploma, for which a fee must be paid.
3. Persons practising, or who shall commence to practise, before the first of September, 1874, shall register without diplomas.
4. The penalty for non-compliance with the act, upon conviction, is fixed at not less than twenty-five nor more than five hundred dollars; and the fact that such person has not filed his diploma is a sufficient defence in any action which he may bring to recover his fees for professional services.—*St. Louis Medical and Surgical Journal.*

Union of two Kidneys in One.—At a recent meeting of the *Société des Conférences Anatomiques*, of Lyons, M. Odin displayed a kidney twice the normal size, removed from a fœtus born at full term. The organ was found lying immediately in front of the vertebral column, at the usual height, and had the form of a crescent with the horns directed downwards. The supra-renal capsules were excessively developed, but the ureters were of normal size.—*Lyon Médical.*

Bibliographical Notices.

History of the American Ambulance in Paris during the Siege of 1870–1871. By T. W. Evans, M.D., D.D.S., &c. London: Sampson, Low, Marston, Low and Searle. 1873. 4to. Pp. 694. From Wm. Wood & Co., New York.

This magnificent volume, beautifully and ornately printed upon tinted paper, with numerous wood-cuts, plates and diagrams, offers much more than its title seems to promise, since the first 444 pages must be perused, or turned over, at the option of the reader, before the subject of the American Ambulance is entered upon. The matter is arranged in the form of voluminous reports addressed by members of the Ambulance to their President, Dr. T. W. Evans, whose philanthropic labors in the cause of sanitary science and of humanity on the battlefield are well known. The first chapters are mainly devoted to an exceedingly long and laboriously erudite dissertation upon army hospitals and tents, by Dr. Crane, the Secretary and chief organizer of the Ambulance. In these exhaustive and somewhat exhausting essays, much valuable information is given, accompanied by an unnecessary amount of research upon subjects which can only interest us under their most modern and practical aspect. We will pass at once to the portion of the work which appears to us to be really valuable and instructive, namely, a chapter entitled "The Special Organization of the American Ambulance," by Dr. Crane, and the surgical report of Dr. John Swinburne, surgeon-in-chief.

Dr. Crane's very complete description of the organization and installation of the Ambulance is highly interesting, as exemplifying the successful use of tents during the coldest months of an unusually severe winter. The tent which was used was the United States regulation hospital tent, made of 14 oz. duck; ten such tents, capable of containing five or six beds each, were sent for to this country, and reached Paris soon after the opening of hostilities. Besides these tents, which constituted the most interesting feature of the American Ambulance, barracks were erected, and a house in the neighborhood was loaned to Dr. Evans, so that the total number of beds was raised to 150. The situation of the ambulance, though defective in some respects, was in the main very favorable; the tents occupied an empty lot near the Bois de Boulogne, quite away from the city proper, so that they might be said to have the advantage of country air.

The tents were all floored, and were arranged by Dr. Crane so as to form two long pavilions, each formed by joining together, end to end, five tents; each pavilion then contained from twenty-five to thirty beds. An important problem was how to warm the pavilions in a thorough manner, and at the same time economically, fuel being very scarce in Paris during the siege. A great objection to the use of tents has always been the difficulty of keeping them warm in very cold weather. This end was admirably accomplished by means of a very simple and ingenious contrivance known as the "*California stove*," with the use of which Dr. Crane had become acquainted during the war with the South. It consists in an underground stove, which is buried in a pit below the lower end of the pavilion, outside of the terminal tent; a shallow trench is dug in the ground under the flooring of the tents, and runs longitudinally in the median line from one end of the pavilion to the other; in this trench, lies horizontally a long smoke-stack, which emerges vertically, outside the furthest terminal tent, to a height of about ten feet. The heat generated in the stove is thus transmitted by the long horizontal pipe, through the flooring of the entire series of tents, and serves not only to thoroughly warm and ventilate the tents, but also to warm and dry the ground beneath. This means of warming tents is little known and practised, even in this country, where it originated; it proved very efficient in Paris, as the writer of this review can testify from personal experience, and, indeed, it may almost be said to have constituted the whole secret of the success ob-

tained by the tent hospital. During the siege, the writer frequently visited the various ambulances, situated in public and private buildings, as well as in temporary wooden barracks, and in the coldest weather the temperature would always be as low as 34° or 36° Fahr., when in the American tent-hospital it was ranging between 55° and 65°, and this degree of warmth was maintained through the coldest days of the winter. Thus, instead of proving inferior in this respect to ordinary buildings and barracks, the tent-hospital, thanks to the California stove, really afforded a shelter for the wounded which was more easily and thoroughly warmed than any other.

Dr. Crane, after reviewing the history of tent-hospitals, says:—"I feel confident that the facts and opinions, both European and American, which I have presented, will convince you that in proposing to establish an ambulance under the cover of canvas, not simply as a temporary, but, if necessary, as a permanent installation, we acted almost, if not entirely, without precedent."

Not only did the tent hospital prove by far the most successful in practice, compared with all the other forms of shelter which were improvised to meet the extraordinary requirements growing out of the military operations around Paris, but it presented the great additional advantage of economy. Dr. Crane calculates that the maximum expense incurred in the establishment of an ambulance of fifty beds, under such tents as were employed in Paris, would be about 125 francs for each bed. Various barrack hospitals were erected in and around Paris, of which the cost ranged between 1,000 francs (Passy) and 1300 francs (St. Cloud) for each bed.

Turning to Dr. Swinburne's "Surgical History of the American Ambulance," we find a full *exposé* of the results obtained by means of the resources placed at his disposal by the committee.

Dr. Swinburne's treatment of wounds was generally as follows:—After the removal of all foreign matter from the wound, including such fragments of bone only as might have been detached from the periosteum, the wounds were dressed with compresses dipped in warm water, and covered with some impermeable material. These simple open dressings were changed once or twice daily; dilute solutions of carbolic acid, dilute alcohol, nitric acid (gtt. 60 to aq. Oi.) &c., were used to disinfect or stimulate wounds; oakum was largely employed to support wounded parts and to absorb discharges. Thus, it will be seen that the treatment was of a very simple kind, presenting no unusual or novel features, and that whatever success was obtained was due to the good sanitary condition of the tent-hospital, as well as to the experienced care bestowed upon his patients by the Surgeon-in-chief. Although no "antiseptic treatment," strictly speaking, was used for the wounds, measures were frequently taken to disinfect the tents, previously evacuated for the purpose, by means of chlorine, evolved in thin vapors; sulphate of iron and solution of permanganate of potassa were also used.

The surgical cases treated at the ambulance reached 247 in number; of these, 114 were cases of *compound fracture*, and as some of the patients had sustained multiple injuries, the total number of compound fractures was 126; these injuries were distributed as follows:—hip-joint, 4 cases; thigh, 3; knee, 7; leg, 7; ankle, 10; head of humerus, 9; scapula and clavicle, 12; arm, 6; elbow, 4; forearm, 9; wrist, 4; hand, 11; head, 10; face, 7; chest, 10; back, 9; pelvis, 4. "Notwithstanding the large number of fractures, conservative surgery was so largely practised that, of the 126 cases, only nine seemed to require amputation of the long bones." The mortality was 47, or a little over 19 per cent. of all the cases of compound fracture. "The results of these cases, as a whole, will compare favorably with those of a similar class in other wars," says Dr. Swinburne, and we will add, without fear of contradiction, that in no other military hospital or ambulance in Paris, were similar results attained or even approximated.

During the early part of the siege, the great success obtained at the American Ambulance was very striking; all the more so, when it is known that the vast Palais de l'Industrie, in the Champs Elysées, which was occupied by the Société de Secours aux Blessés, contained cases of pyæmia and ery-

sipelas within three weeks of its inauguration as a military hospital. "From the beginning of the siege to the 30th of November, 1870, above sixty wounded men were treated in the Ambulance. Of these but two died, and the immediate cause of their death was tetanus. Four of the above number were amputated through the thigh for wounds of the knee-joint; two compound fractures, one through the neck and one through the shaft of the femur, were successfully treated by conservation, and are now well, walking with crutches, and possessed of good limbs; one compound fracture of the tibia, just below the knee, recovered, but afterwards received an injury in another part, from which he died; two gun-shot fractures of the wrist, and two of the ankle-joint, recovered with useful limbs; two comminuted fractures of the scapula, a number of gun-shot fractures of the bones of the fore-arm, hands, feet and fibula, one resection of the shoulder-joint, for compound fracture of the head of the humerus, in a soldier suffering from large, pleuritic effusion, one wound through the chest, ball passing through the right lung, entering the third rib anteriorly, and passing out posteriorly under the scapula, besides several other serious cases, not particularly interesting in a surgical point of view, were successfully treated." . . . . . "We now come to a period extending from the 30th of November, 1870, to the end of the siege, in which food and fuel in sufficient quantity or of proper quality, were not to be had, so that all the wounded whom we received, much exhausted from exposure and want of food and fuel, were in a condition unfavorable for surgical treatment. Many were suffering from the usual camp diseases such as diarrhœa, dysentery of a typhoid character, and chills and fever. Others had been lately discharged from hospitals, where they had been under treatment for the prevalent diseases, bronchitis, pneumonia and pleurisy, and sent to field duty, and were, therefore, still very feeble. Indigestion was the rule when food was taken; while some were unable to eat, even when suitable food was offered. Subsequently to this period, the mortality was increased, owing to the causes above enumerated, and to the mortal nature of the wounds. For example, from seventeen shell wounds received from Drancy in one day, eight died in a short time from their wounds. Still later during the siege, several died from acute pulmonary disease, superinduced by deficiency of fuel. Some of the deaths, as will be seen by reference to the history of the fatal cases, occurred immediately on, or a few hours after, arrival, while others, whose wounds were equally mortal, shared the same fate at a later period. It is, therefore, scarcely necessary for me to add that the greatly increased mortality after the 1st of December was due to causes over which surgery had no control."

Dr. Swinburne gives reports of many of his most interesting cases, selected so as to exemplify the treatment used in the different varieties of severe gun-shot wounds; these reports are followed by short histories of all the surgical cases, 47 in number, which terminated fatally. Reviewing the causes of this mortality, Dr. Swinburne undertakes to show that *no cases of pyæmia occurred in the American Ambulance;* he throws aside pyæmia, and the allied forms of septic infection which are known to be by far the most common causes of death among wounded men when aggregated together in considerable numbers, and attributes the fatal termination observed in 47 out of 247 surgical cases, to a "*want of recuperative power*," due to imperfect hygienic conditions before and after the receipt of the injury. "In order," he says, "that the public may rest fully satisfied on this point, I have given a detailed history of every death." It would have been very gratifying to those who are interested in the success of tent-hospitals, if it could have been satisfactorily shown that pyæmia had been successfully excluded from the tents composing the American Ambulance; but we fear that Dr. Swinburne's demonstration must be considered incomplete, and that we must be content to claim for the tent hospital only relative and not absolute success in the attempt to exclude the deleterious influences which constitute hospitalism, and engender septic infection. Dr. Swinburne's reports of fatal cases are so summary as to be of little or no value for the purpose of establishing the non-

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existence of septicæmic complications; the reports are particularly deficient in one important point; in only 11 cases was any *post-mortem* examination made, and in these it was very incomplete; in no case is there any mention of the condition of the viscera, and of the synovial and serous membranes. The non-existence of pyæmia can only be pertinently demonstrated by a thorough *post-mortem* examination, showing the absence of metastatic abscesses and other lesions characteristic of this disease.

The object with which the American Ambulance was created was not only to render material assistance to our French friends by helping them to take care of their wounded, but also to impart the experience derived from our own recent war, in which the applications of sanitary science were more effectively used than ever before. The great interest which was excited among the public, both lay and professional, by the American tent hospital, and the very complete account of its doings, published under the care of the President of the Committee, give us reason to hope that the philanthropic efforts of the promoters of the Ambulance may not have been made in vain.

The volume before us, we may say in conclusion, though somewhat marred to the exclusively professional eye by a redundancy of narrative of purely private and personal interest, and by the excessive length of the historical portions, still gives an impression of good, useful work, most thoroughly accomplished, and so it is extremely creditable to those who were in charge of the American Ambulance, and have here narrated their experience.

T. B. C.

Boylston Medical Society of Harvard University. Catalogue. March, 1874. Boston: D. Clapp & Son.

THIS Society has just published a new catalogue, under the supervision of a special committee appointed for the express purpose of correcting any errors which may have crept into previous catalogues. It is a matter of regret that the committee should have allowed the catalogue to be published with so many errors, nearly all of which could have been avoided if the young gentlemen who formed the committee had only asked advice of those who had had experience in the preparation of similar catalogues. A hasty examination shows from thirty to forty errors, for few of which there is any excuse. The committee are entitled to great credit, however, for the valuable addition which they have made to the list of the successful candidates for the Boylston Prizes, a list which, heretofore, was far from complete.

It is to be hoped that the next time a catalogue is printed, a careful correction will first be made of the numerous errors in the present one.

Anatomy of the Invertebrata. By C. TH. v. SIEBOLD. Tranlated by WALDO I. BURNETT, M.D. Boston: James Campbell. 1874. Pp. 470.

THE merits of this work are too well known to make any review of it necessary, as the present volume does not differ materially from the previous edition. It has been for some time out of print, and we are very glad to see it reproduced.

BLOW AT CHARLATANS.—The committee appointed by the Texas Medical Society to examine the act to regulate the practice of medicine in that State, have presented the following amendment, among others, to be recommended to the legislature:—

"Section 7. Any person who is not a citizen of Texas, entitled to vote, who shall come into the State and advertise to perform surgical operations, or cure diseases, shall, before entering upon such practice, pay into the county treasury the same tax as is paid by persons exhibiting a circus performance or menagerie, and, for violating this act, parties guilty of the same shall be subject to the same penalties, to be collected in the same way, as for circus and menagerie exhibitions."

Boston Medical and Surgical Journal.

BOSTON: THURSDAY, JULY 2, 1874.

WE occasionally see that some prisoner, who has been pardoned from the State Prison, or one who has been let out on probation, is sent back to the prison to serve a new term, or the remainder of his old one. And, again, we find that the Governor pardons some one to die among his friends and relations, because he is too sick to remain at Charlestown.

We protest against such apparent lenity. If a man has committed a crime for which imprisonment for five years is the proper amount of punishment, not one day nor one hour should be cut off, be he sick or be he well; and whether his days are to be shortened by it or not. The prison has a hospital attached to it, and there is the place for treating the prisoner. That he is to be sick away from home is the result of his crime, and is a part of his punishment. There would be as many good reasons for allowing him to choose his medical attendant, or the style of his dress, as there are for allowing him to choose the place to be sick in. The practice of pardoning one or more well-behaved prisoner once a year is a part of the same folly. A large number of criminals can behave well for the sake of getting free from prison walls, and another and equally large number can play sick to perfection, if that be the easiest way to escape from punishment. Feigned sickness is easily recovered from, and so is the real sickness, which often seems to be of the severest character. Yes, every physician knows that even consumption is recovered from. And there is just as much reason for paying the poor, sick villain's passage to a Southern climate, as there is for discharging him from bonds.

Playing insanity is one form of playing sick, and of late years it has become a cheap way to escape the gallows. Insanity is a disease, it is true; but its imitation is so easy that a large number of criminals imitate it readily. Insanity varies as much in its severity as any other disease, and, in the largest proportion of cases, the insane man knows enough not to hurt himself in the paroxysms. We are very much inclined to think that if the penalty of the law were inflicted upon one insane man, in consequence of his violating that law, the violations would not be one tithe of what they are now. Insane men are not fools.

We are perfectly aware of the hue and cry that the advocating of this plan would produce, but it would be for the greatest good of the whole.

The object of punishment is not revenge for crime already committed, but prevention of crime, which otherwise will be committed. At this day, the greater the crime, the less likely punishment seems to be; and as a consequence murder is a favorite means for preventing detection. When a murder case comes before a jury for trial, that body objects to conviction, lest they may be the means of sending into the presence of the Almighty, him who is black with sin and unable to repent and be forgiven. Just as if the Lord had lost His power over those condemned to be hanged; a moderately conceited way of expressing the superiority of human over Divine mercy.

RENEWED attempts have lately been made to victimize the public by representations that a physician had become the successor of a notorious individual named Basto, in the application of a *pretended* secret remedy for fistula, piles, &c.

As is well known, the Basto method is neither a secret nor a new mode of treatment, but consists in the introduction of a seton or rag, smeared with a paste of caustic potash. The "infernal" pain (as described by the sufferers) attending each renewal of the application, and the slowness of the cure, as compared with the period of recovery under proper treatment, long ago led to an abandonment of this method by the profession; and nothing could be more absurd than a claim of value or novelty for this obsolete and barbarous practice.

THE following is the list of graduates from the Harvard Medical School during the year 1873–74, with the titles of their theses. Names in small capitals are those of students graduating in February, under the old system:—

William Sturgis Bigelow, A.B.—*Unusual Results of Septic Poisoning.*
Lewis Lincoln Bryant.—*Milk.*
Edward Marshall Buckingham.—*Certain Surgical Dressings.*
George Greenleaf Bulfinch.—*Scarlatina.*
John Standish Foster Bush.—*Stricture of the Urethra.*
Leander Albert Cliff, A.B.—*Empyema.*
CHARLES HENRY COLBURN.—*Typhlo-Enteritis.*
WILLIAM SAGE CROSBY, A.B.—*Delirium Tremens.*
Frank Henry Davenport, A.B.—*Amenorrhœa.*
William Sawyer Dennett, Jr. A.B.—*Nature vs. Science in Midwifery.*
Marshall Perry Eayrs.—*Rational Medicine.*
EDWARD WALDO EMERSON, A.B.—*The Thermometer in Medicine.*
SAMUEL PAGE FOWLER, A.B.—*Diabetes Mellitus.*
George Minott Garland, A.B.—*Some Experiments upon the Line of Dulness in Pleuritic Effusion.*
Edwin Peabody Gerry, A.M.—*The Therapeutic Value of Subcutaneous Injections of Ergotine.*
Robert James Hallaren, A.B.—*Conjunctivitis.*
Richard Harrison—*Trephining.*
FRANK STILLMAN HILLARD—*Colchicum.*
William Barker Hills, A.B.—*Urinary Sediments.*
GEORGE OSCAR JENKINS—*Secale Cornutum.*
SETH WIGHT KELLEY, A.B.—*On the Value of Hot Milk in certain Bowel Diseases.*

Francis Boott Loring—*Aphasia.*
Stephen Crosby Martin—*Hæmorrhoids.*
Edward Jesse Moors—*Aphasia.*
William Edward Moseley—*Empyema.*
Duncan Barbour Myshrall—*Tetanus.*
George Whipple Porter, A.M.—*Empyema.*
Andrew Fairfield Reed, A.B.—*Tracheotomy.*
Thomas Morgan Rotch, A.B.—*The Emigration of the White Corpuscles in Inflammation.*
Edmund Doe Spear, Jr.—*Chronic Catarrhal Pneumonia.*
Hugh Johnstone Speer—*Pathology; its Elements.*
Flavel Shurtleff Thomas—*Poppy and its Juices.*
Edward Tobey Tucker, A.B.—*Intermittent Fever.*
Herbert Warren—*The Pneumatic Aspirator.*
William Henry Wescott—*Anæmia.*
Morris Plumer Wheeler—*Air.*
Frank Blaisdell Wilder, A.B.—*Cannabis Indica.*
Charles Herbert Williams, A.B.—*Experiments on the Action of Bile in Promoting the Absorption of Fats.*

The "Conseil General du Rhone" announces that a prize of 2,000 francs will be awarded to the author of the best monograph upon the subject of *Foundlings.* The following embrace some of the questions mentioned as worthy of especial attention in this connection:—

1. Causes which lead to the desertion of infants. What results are furnished by statistics collated at the present time?

Do our social, political and religious institutions have any tendency to increase the number of foundlings? Did the habit of abandoning young children prevail in ancient times? What literature is extant upon this subject? Is it possible to determine the exact period, at or about which the custom of deserting infants began to be extensively practised, and under what influences, social and religious, did this change occur?

2. What measures can be suggested, the adoption of which will bring about a reduction of the number of foundlings?

What become of foundlings? Compare their condition, moral and physical, with that of other children.

3. What methods can be suggested for ameliorating the physical and moral condition of foundlings, and reducing the rate of mortality which prevails among this unfortunate class?

4. What is the best plan of bringing up foundlings?—*Lyon Médical.*

Dr. W. L. Appley relates the particulars of a case of cystic goitre of twenty years' standing, occurring in a man aged 65, a complete cure of which was effected by evacuating the contents of the tumor by means of a trocar, and then introducing a rubber drainage tube, through which warm water was injected twice daily.—*Medical and Surgical Reporter.*

The Hospitals.

MASSACHUSETTS GENERAL HOSPITAL.

(Tuesday and Saturday, June 16 and 20, 1874.)

Operations were performed in the following cases:—Necrosis of Humerus, Hydrocele, Hare-lip, Fistula in Ano, Stricture of Urethra. During the week, Necrosis of Upper-jaw, Pistol-wound of Hand.

Necrosis of Humerus—in a boy eight years old. Sequestra removed from upper part, leaving behind no diseased bone.

Hydrocele—Single, in a man fifty-two years old, third tapping; last time one year ago. Now, half a pint of clear fluid drawn off by trocar and canula.

Hare-lip—double, in a baby two months old. The fissure extended into the nostrils, and communicated with a cleft-palate; the inter-maxillary bone unusually prominent. The second fissure was left for a future operation.

Fistula in Ano—in a man. Laid open.

Stricture of Urethra—of gonorrhœal origin and ten years' duration, in a man fifty-four years old. Occasionally, retention of urine, relieved at one time by gradual dilatation with elastic bougies; while under treatment, was attacked by cystitis, and neglected to pass his bougie. The stream gradually diminished, until a filiform bougie enters with difficulty, owing to contraction, and to false passages from attempts at catheterization previous to entering the hospital. Under ether, the stricture was ruptured by Voillemier's divulsor, and a large elastic catheter passed into the bladder and left.

Necrosis of Upper Jaw—in a child five years old. Since she was seven months old, carious bone had from time to time been exfoliated through a fistula near the first molar tooth and another near the edge of the orbit. This tooth was extracted, and, through the opening made, a large quantity of dead bone removed.

Pistol Wound of Hand—in a man. The ball entered on the radial side, fractured the first metacarpal bone, and lodged under the skin, on the ulnar side of the fourth metacarpal bone. Wound enlarged and bullet extracted.

H. H. A. BEACH.

Correspondence.

THE PORTLAND SCHOOL FOR MEDICAL INSTRUCTION.

PORTLAND, Me., June 22, 1874.

MESSRS. EDITORS,—The past fortnight has been an unusually interesting one in medical circles in this city. The first event of importance was the annual meeting of the Maine Medical Association, which took place on the 9th inst., the session continuing three days. The attendance was very large, the papers numerous and able, the discussions animated, and the utmost good feeling prevailed. All things considered, the meeting is universally regarded as one of the most agreeable and profitable which the Association has ever held.

The other occurrence of especial note was the opening of the eighteenth annual course, and the dedication of the new rooms, of the Portland School for Medical Instruction, on last Wednesday evening, the 17th. During the past year, there has been an intermission in the operations of the school, for reasons which it is not important to specify. But the evident demand for an institution of this kind induced the physicians who had previously worked in the school to unite others with themselves, and start afresh on a somewhat different basis. Entirely new quarters were secured in the Canal National Bank building, one of the most centrally located, substantial and elegant edifices in the city. In the third story are the lecture-room and museum, while the fourth is devoted entirely to the dissecting-room. Every apartment is easy of access, well lighted, and supplied with gas and Sebago water, as well as the necessary furniture, and there are abundant accommodations for forty or fifty students. The importance of the undertaking seemed to warrant some formality at the opening, and invitations to attend the dedication of the new rooms were accordingly sent to the old students of the school, the physicians of the city, and other gentlemen prominent in various walks of life. Dr. Israel T. Dana, one of the two men who founded the school, and who has been connected with it from the beginning, had very fittingly been chosen as the orator of the evening, and gave a remarkably entertaining historical sketch of the institution—a task for which his intimate knowledge of its entire progress most eminently qualified him. I regret

that limited space does not permit a full report of the address. The following brief abstract, however, contains the essential points.

The school was organized in accordance with a resolution of the American Medical Association, "cordially approving the establishment of private schools, to meet the increasing desire of a respectable number of medical students for a higher grade of professional education than can usually be acquired under the direction of a single instructor." On this plan, the Boylston Medical School and a few others had already been established, and the physicians of Portland were not slow to appreciate the superiority of this method of instruction over the ordinary practice of "reading medicine" in the office of a preceptor. But the older men, though possessing, in a marked degree, qualities which fitted them to be teachers, were so absorbed in active professional business as to have no time to devote to students; they were willing, however, to give their countenance and support to a project of this kind. Accordingly, Dr. William C. Robinson, who had then been in practice here about seven years, and Dr. Dana, who had more recently settled in this city, agreed to take students together, and issued their first announcement in March, 1846. In January, 1858, an act of incorporation was obtained from the legislature.

From the beginning up the present time, there have been fifteen different instructors in the school, as follows:—

Dr. Robinson, from 1856 to the time of his death in '72; Dr. Dana, all the time; Dr. S. Fitch, for some months in the first year; Dr. Theodore Ingalls, in 1857; Dr. A. M. Paddock, in 1858; Dr. W. R. Richardson, 1859–61; Dr. C. H. Burbank, 1860–61; Dr. Thomas A. Foster, 1862–70: Dr. George L. Goodale, 1863–67; Dr. S. H. Tewksbury, 1866–69; Dr. Stephen H. Weeks, 1867–72; Dr. Wm. Warren Greene, 1868–72; Dr. Charles O. Hunt, 1869–72; Dr. Frederic H. Gerrish, 1869–72; and Dr. George F. French, 1871–72. Of these, five have been professors in the Medical School of Maine, namely: Drs. Robinson, Dana, Greene, Goodale and Gerrish; and the last three have been professors in two colleges at the same time. Two, Drs. Dana and Tewksbury, have been Presidents of the Maine Medical Association. Drs. Burbank, Richardson and Hunt held commissions in the army or navy. Three have died—Drs. Ingalls, Richardson and Robinson—and brief sketches of the lives and services of all were given, but the career of the latter was particularly dwelt upon. His professional ability and enthusiasm, his honorable ambition and public spirit, his faithfulness in every relation of life, his kindness to the poor, all were spoken of with a fervor and tenderness which were the natural outgrowth of a close intimacy of nearly twenty years; and the audience, composed as it was very largely of his former students and professional brethren, most heartily concurred in every word which eulogized his virtues and deplored his death.

Over one hundred and fifty students have been connected with the school. The first year saw the smallest number, two; the last year the largest, twenty. The average number for ten years past has been fifteen. The advantages of the discipline which the school affords its students have been constantly noticed in the superior standing which they have taken in the medical classes of various colleges and in the walks of private practice. Four of its students have been teachers in the school, three have been professors in the Medical School of Maine, one a professor in Bowdoin, one a professor in Harvard, one a professor in the University of Michigan. The list of those who have distinguished themselves in other public and private stations is far too long for insertion here.

After twelve months of intermission, the school enters upon its eighteenth year of instruction. Portland presents a field for medical teaching which its physicians are under obligations to develop. The instructors propose to engage in this work,

First, with true *esprit du corps*, actuated by a love of the profession, by a sincere conviction that its work of saving life, of mitigating suffering, is dignified, noble and sacred, by a purpose to inspire their students with an ardent enthusiasm in their calling.

Second, they undertake the task in the spirit of generous coöperation, each appreciating the peculiarities of all the rest, and magnanimously striving to utilize, rather than oppose, the diversities of temperament, taste and opinion which inevitably exist among men.

Third, they enter on the labor with a genuine love of truth. The facts of medicine must be clearly observed, the very fabric, the parenchyma, of the mind, must come in contact at every point, that an accurate impression may be obtained; even as the sculptor, in making a cast, takes pains that his clay shall touch every part of the surface, that the work may be true to life. This observation of facts is the basis of all our knowledge; the foundation thus laid we advance by the application of reason to them. In determining questions of science, the mind must be divested of all prejudice, must not be tied to any exclusive dogmas, nor be determined to swear in the words of any particular master. "The love of truth and fairness in searching for it" are both essential to good progress. We should approach our study with the purpose of a judge, not of an advocate.

One result of such work is a growing humility. The mind is observing the work of the Almighty and seeking to get an understanding of His infinite ways. It is only the very young student who can boast of his knowledge, and spread the gay feathers of conceit and self-satisfaction.

In the spirit of such considerations, we now dedicate these school-rooms to the study of true medical science.

After the address, speeches were made by the Rev. Edw. Y. Hincks, of the State Street Church; the Hon. Wm. Thomas, Jr., Speaker of the House of Representatives; the Hon. Israel Washburn, Jr., Collector of the Port; and Dr. Alfred Mitchell, Professor of Obstetrics and Diseases of Children in the Medical School of Maine; representing, respectively, theology, law, commerce and medicine. The speakers were all very happy in their remarks, which were received with great favor by the audience. Finally, the assembly, by invitation of the teachers, sat down to an elegant and bountiful supper at the Falmouth Hotel, where further remarks were made by Mr. A. A. Strout, Hon. W. L. Putnam and others.

The summer term commenced the next day, a goodly number of students being in attendance. Systematic daily recitations are held, familiar lectures and demonstrations regularly given, ample clinical advantages afforded and abundant facilities given for the study of practical anatomy. At present, there are twelve instructors:—Drs. Dana, T. A. Foster, Tewksbury, Weeks, Greene, Hunt, Gerrish, French, Gordon, Small, B. B. Foster, and Bray; and, if one may judge from the manner in which a beginning has been made, their anticipations of a successful course will be more than realized.

GAMMA.

Obituary.

THE LATE GEORGE DERBY, M.D.

HARVARD UNIVERSITY MEDICAL SCHOOL,
Boston, Mass., June 26, 1874.

MESSRS. EDITORS,—At a meeting of the Faculty, on the 22d inst., the following was adopted:—

"*Resolved*, That the Medical Faculty of Harvard University have learned with the deepest regret of the death of their late associate, Dr. George Derby.

"His talents, zeal and untiring industry made him preëminent in the department over which he presided, and render the loss to the profession and the community almost irreparable, while his high moral character, courtesy and genial manners greatly endeared him to us."

It was also voted that a copy of the above be sent to the MEDICAL JOURNAL for publication. Very respectfully yours,

C. ELLIS, *Dean*.

Medical Miscellany.

THE CONNECTICUT RIVER VALLEY MEDICAL ASSOCIATION will hold its July meeting at the Brooks House, Brattleboro', Vt., on Wednesday, July 8th, 1874, at 9 o'clock, A.M.

THE prompt passage by the Legislature of the resolution granting to the family of the late Dr. Derby the amount of his salary for the remainder of the year is a proper, though scanty, recognition of his service to the State.

DEATH OF A GIANT.—In the official register in Scotland, is recorded the death of an Irishman, occurring in that country in 1873, whose height was *seven feet eight inches.*

FORMULA FOR TOPICAL APPLICATION IN DIPHTHERIA.—

℞. Acidi carbolici, gtt. v.-x.;
Liquor. ferri subsulphatis, ʒi.-ij.;
Glycerinæ, ʒi. M.

PROFESSOR COHNHEIM, of Breslau, who has been suffering from illness, has recovered sufficiently to be able to return to his professional duties. Professor Pitha, of Vienna, has been obliged to visit Mentone and Meran for the benefit of his health. He is so far better that he expects to be able to return to Vienna in the autumn.—*London Medical Record.*

WATERING PLACES IN SPAIN.—The Spanish Government has just issued an elaborate series of regulations regarding bathing and mineral-water establishments in Spain and the adjacent islands. The duties, rights and privileges of the medical directors of these institutions are, *inter alia*, laid down with much minuteness.—*London Medical Record.*

A CURIOUS instance of superstition is reported from Lewiston, Me. A family there, who had lost several of its members by consumption recently, had the body of the last one who died disinterred and reburied face downward. This was in accordance with a belief that to stop the ravages of the disease in the family it is only necessary to bury the last victim face downward.—*Medical and Surgical Reporter.*

SULPHATE OF CADMIUM IN BLENNORRHAGIA.—M. Gazeau recommends injections of this salt instead of sulphate of zinc, on account of its more highly stimulating and astringent qualities. In the acute stage, the injection may be made of the strength of one-half grain to the ounce of water, to be used every two hours. Copaiba may be administered for the first few days, and cases are frequently cured in five or six days. In chronic blennorrhagia, the following combination should be used:

℞. Cadmii sulph., gr. xvi.;
Bismuth. subnit., ℈vss.;
Aq. dest., ʒiiiss.—M.

Sig.—Inject after each urination.—*Medical Times.*

HOW SMALLPOX IS SPREAD.—The following fatalities from smallpox are reported by the *North Devon Journal.* A boy of Combe Martin, an apprentice to a firm of drapers in Bristol, was lately taken ill, and sent to a medical gentleman, and almost immediately afterwards sent home by train, a telegram having been previously sent to his friends to send a conveyance to meet him at the railway station. It was a cold, raw day; and the parents, not supposing that their son was seriously ill, sent an open vehicle to bring him home. On his arriving at home, it was at once seen that the youth was suffering from smallpox. After a few days he died. The young man who fetched him from the station also took the disease and died, and the woman who nursed him is seriously ill. Two men who put the body into the coffin caught the infection, and one is reported dead. Another woman who took tea with the nurse likewise caught the disorder.—*London Medical Record.*

FINE OF A HOMŒOPATH.—An irregular practititioner was recently fined at Brest for practising without a diploma. He was a retired naval officer who had found means, during several years, to increase his income by the sale of tiny bits of sugar steeped in liquids, for the nominal sum of fivepence each. He called himself a homœopath, and openly visited patients, and gave consultations, charging the same fees as the medical men of Brest. This was no vulgar and illiterate impostor, and his success was the greater as he was a superior naval officer, and always gave his consultations in full uniform.—*Medical and Surgical Reporter.*

FORMULÆ FOR THE TROUBLESOME COUGH OF PHTHISIS.—

℞. Potassii bromidi,
Potassæ chloratis,
Ammoniæ muriatis, } aa ℥iss.
Syrup. tolutani, ℥iv. M.

Tablespoonful every two or three hours.

℞. Tincturæ opii camphoratæ, ℥i.;
" belladonnæ, ℥i.;
" hyoscyami, ℥ij.;
Spiritus lavendulæ comp., ℥i. M.

Ten drops on a lump of loaf sugar every hour until cough is relieved.—*Charity Hospital, New York.*

FOR CONSTIPATION.—

℞. Aloës Socotrinæ, gr. xv.;
Ext. anthemidis, gr. xv.;
Ext. rhei, ℥ss.;
Zingiberis pulv., gr. viii..—M.

Divide into twenty pills; one or more at night as required.—*Medical Times.*

NOTES AND QUERIES.

CAKES AND ALE.—They have "good times" at district, or, as they call them, branch society meetings in England; witness the following from a notice for a meeting this month: "Luncheon from 12 to 1, P.M. Dinner at 4, P.M., precisely. Tickets, 10s. 6d. each, *including a pint of wine.*" ***

DIED,—At Newton, June 24th, Dr. Thomas B. Hitchcock, aged 35.

MORTALITY IN MASSACHUSETTS.—*Deaths in twelve Cities and Towns for the week ending June* 20, 1874.

Boston, 113; Worcester, 9; Milford, 4; Chelsea, 6; Cambridge, 12; Lawrence, 9; Springfield, 9; Lynn, 16; Newburyport, 5; Somerville, 6; Fall River, 13; Holyoke, 10. Total, 212.

Prevalent Diseases.—Consumption, 41; pneumonia, 23.

F. W. DRAPER, M.D.
Secretary pro tem. of the State Board of Health.

DEATHS IN BOSTON for the week ending Saturday, June 27th, 135. Males, 62; females, 73. Accident, 3; abscess, 1; apoplexy, 2; inflammation of the bowels, 2; bronchitis, 1; inflammation of the brain, 3; congestion of the brain, 2; disease of the brain, 8; burned, 1; cancer, 3; cholera infantum, 4; consumption, 22; convulsions, 2; croup, 1; debility, 2; diarrhœa, 3; dropsy of the brain, 7; dysentery, 1; diphtheria, 2; erysipelas, 2; scarlet fever, 4; typhoid fever, 4; gangrene, 2; disease of the heart, 7; hæmorrhage, 1; ileus, 1; disease of the kidneys, 3; congestion of the lungs, 2; inflammation of the lungs, 5; marasmus, 8; measles, 3; malformation of the heart, 1; homicide, 1; old age, 4; paralysis, 1; pleurisy, 2; premature birth, 1; peritonitis, 1; puerperal disease, 1; rheumatism, 2; sunstroke, 1; tumor, 1; uræmia, 1; whooping cough, 4.

Under 5 years of age, 65; between 5 and 20 years, 15; between 20 and 40 years, 24; between 40 and 60 years, 17; over 60 years, 14. Born in the United States, 97; Ireland, 30; other places, 8.